localities of meteorites are an important feature in the determination of their relations, and much confusion has often been caused by efforts to determine whether differently named meteorites belong to single falls. Professor Ward's catalogues will long remain probably the best authority in these matters. Of his last great collection of meteorites, it is enough to say that it contains representatives of more falls than any other collection in the world, and its weight compares well with the largest. The collection thus is, as he desired it should be, the crowning achievement of his life in this direction, and other collectors can bear witness to the fact that he left little ungathered.

Aside from his contributions to science, Professor Ward will long be remembered for his charming personality. The writer's acquaintance with Professor Ward was confined to the later years of his life, but it was a privilege which he highly esteemed. As a *raconteur* Professor Ward had few equals. His many years of travel, his native humor, shrewdness and business sense gave him a wealth of observation and philosophy from which to draw tales that were of the most delightful and instructive character. A letter from Professor Ward, too, was always a delight. Few ever combined more humor and philosophy, shrewdness and science in a single epistle than Professor Ward was accustomed to do, and it is to be hoped that some collection of these writings of his may be made. Professor Ward's knowledge of languages, obtained through years of travel, greatly facilitated his work as a collector. He gained a knowledge of French in his early years through study in Paris, and later travel acquainted him with German, Spanish and several other languages. His knowledge of Spanish was sufficient on a recent visit to Chile to enable him to lecture in that language on the subject of meteorites to the students of the School of Mines in Santiago.

Professor Ward also rendered great service to science in his earlier years through the Natural Science Establishment which he founded. His work in this regard was epochal in creating and developing an interest in natural history museums in this country. The value of the educational influences which he thus set in motion can only be seen in part as yet. While this work bore a more or less commercial aspect, this was by no means Professor Ward's only interest in it, and that he was able throughout his life to serve the cause of pure science was a source of satisfaction to him and fortunate for the world.

Oliver C. Farrington.

FRITZ SCHAUDINN.

The untimely death of Dr. Fritz Schaudinn, at Hamburg on June 22, removes from service one of the most brilliant of the younger generation of biologists, and one who, by careful and conscientious work, has made a name for himself that will endure. Neither an old nor a young man, Schaudinn has, before the age of thirty-five years, done more solid and lasting work of a pioneer nature than any other of his generation, and so wide has been his range of activity that he will be equally missed in the fields of general biology, cytology, zoology and pathology.

Schaudinn's work has been mainly on the unicellular organisms, the protozoa, although he did not confine his investigations to this field. We find his name, for example, in connection with strictly zoological work on Tasdigrades of the Arctic region, and *Ankylostoma* in the mining regions of Westphalia. In another direction we find him bringing his keen observation and power of experimentation to bear upon the problem of bacteria structure, while in general executive work his energy was given to editorial duties in connection with *Das Tierreich* and the *Archiv für Protistenkunde,* of which he was the originator and sole editor.

In the field of pathology Schaudinn has become the foremost and final authority on the disease-causing protozoa. Beginning with the discovery of *Leydenia gemmipara* in the ascites fluid of patients suffering with malignant tumors, he has been one of the most careful and at the same time the most brilliant investigators in this most difficult field of re-

search, and it is not too much to say that Schaudinn's name has been connected with every distinct advance that has been made in protozoan pathology. In his work at the Kaiserlichen Gesundheitsamte on various forms of human disease his experiments were most ingenious and well conceived, while his interpretations were a happy combination of liberality of view and judicious conservatism. While at this post he carried out experiments showing the specific differences between the harmless *Entamœba* (*Amœba*) *coli* and the pernicious *Entamœba histolytica*, the cause of amœbic dysentery. In connection with this institution also, but at the Rovigno Laboratory, he worked out the full life history of *Plasmodium vivax*, the cause of tertian fever, and put the last missing link in the chain of evidence connecting the mosquito with malaria, by watching the penetration of human blood corpuscles by sporozoites taken directly from the mosquito's salivary gland. It was from this laboratory also that he brought out his much-discussed life history of *Trypanosoma noctuæ*, which gave the first light on these important organisms which are so bound up with human affairs in the nagana and surra, etc., of Africa and India, and Trypanosomiasis and sleeping sickness in man. It was while connected with the Berlin institution that he made his last important discovery of *Treponema pallidum*, the cause of syphilis, an organism that has been sought for in vain by biologists and pathologists since the germ theory of disease was established.

It was in the field of general biology, however, that Schaudinn's greatest and most far-reaching work was done. The problems connected with reduction, and maturation in general, and of parthenogenesis, have been illumined by his researches on the life history of protozoa. He was the first to give a complete account of the life history of protozoan organisms, and his work on *Coccidium schubergi* is a model of completeness of detail and of scientific presentation. With it came the stimulus for renewed and more careful observation on protozoa all over the world. With this conception of the life cycle always in mind and its importance in protozoan study always prominent, he studied many different types of protozoa, and in whatever direction he turned the science of protozoology was advanced. The life activities of *Calcituba*, of *Actinophrys*, *Sphœrastrum*, *Acanthocystis*, *Paramœba*, were worked out, and the full life histories of *Entamœba*, *Centropyxis*, *Hyalopus*, *Polystomella*, *Trypanosoma noctuæ*, *Spirochæta ziemanni* and *Plasmodium vivax* were established.

In his writings Schaudinn was simple and direct. Nothing was stated for effect, and there is an absolute lack of the polemical spirit in his work, which bears only the fair interpretation of his own work with never a thought of priority or of personal advertisement. His experimental work was conceived and executed with a rare combination of skill and patience, and in its very simplicity of statement his writing had the merit of carrying conviction, so that what he has done will remain as landmarks in the field of protozoan research.

GARY N. CALKINS.

THE ROYAL BOTANIC SOCIETY OF LONDON.[1]

THE great revival in gardening which has been taking place during the last few years has not had such a beneficent effect on the Royal Botanic as on other kindred societies. Instead of increasing its membership by leaps and bounds and thus improving its financial position, it has found expansion impossible and new enterprise checked by lack of funds. The question as to whether any of the conditions in its constitution and methods are at fault has been under discussion for some months. A committee of conference of fellows was appointed and a report (or rather two, as there was a minority one also) has been presented to the council suggesting various possible reforms. These have been under the consideration of the council, who have just issued their reply. It is evident that, although there is willingness to meet the fellows' wishes on several points, none of the sweeping changes advocated will be adopted; and it seems doubtful to those outside the society who are competent to judge whether the few changes will

[1] The London *Times*.